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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
TORRES, JOSEPH D	

ART UNIT	PAPER NUMBER
2133	

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/716,787	CHAPMAN, JOSEPH QUINN	
	Examiner	Art Unit	
	Joseph D. Torres	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 November 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *70-102* is/are pending in the application.

4a) Of the above claim(s) *75-79 and 84-102* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *70-74 and 80-83* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 November 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *20050303*.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Newly submitted claims 88-102 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: New claims 88 and 98 recite technical features not found in claim 70 as follows: claim 88 recites, "a digital signal processor (DSP) **configured to perform OSI layer one processing** on **the received signal and to compute a frame check sequence (FCS) on each frame of said received signal**" and claim 98 recites, "computing, in a digital signal processor (DSP), a frame check sequence (FCS) on each frame of the received signal; and **adjusting the layer one processing of the received data stream responsive to the frame check sequence**".

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 88-102 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 70-74 and 80-83, drawn to A communication device comprising: a receiver for developing a received signal; and a digital signal processor (DSP), where said DSP comprises: ***layer one logic* configured to**

perform OSI layer one processing; and **frame check sequence logic** configured to compute a frame check sequence (FCS) on each frame of said received signal, wherein the layer one logic has access to said frame check sequence, classified in class 714, subclass 774.

II. Claims 75-79 and 84-87, drawn to A method for a communication device comprising the steps of: developing, in a receiver, a received signal; performing, in a digital signal processor (DSP), layer two error detection by computing a frame check sequence (FCS) on each frame of said received signal; and **performing, in the DSP, OS1 layer one processing using the frame check sequence**, classified in class 714, subclass 799.

The inventions are distinct, each from the other because of the following reasons: Inventions Group I and Group II are related as process (Group II) and apparatus (Group I) for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the process (Group II) can be practiced in software and does not require distinct layer one logic and frame check sequence logic.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group I, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with Karen G. Hazzah on 3/2/2005 a provisional election was made without traverse to prosecute the invention of Group I, claims 70-74 and 80-83. Affirmation of this election must be made by applicant in replying to this Office action. Claims 75-79 and 84-102 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

This application contains claims 75-79 and 84-102 drawn to nonelected inventions. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Drawings

2. The drawings were received on 11/29/2004. These drawings are accepted.

Claim Rejections - 35 USC § 112

3. In view of the amendment filed 11/29/2004, previous 112 rejections to the claims are withdrawn.

Response to Arguments

4. Applicant's arguments filed 11/29/2004 have been fully considered but they are not persuasive.

The Applicant contends, "Applicant respectfully submits that Byers et al. does not disclose, teach, or suggest the feature of 'a digital signal processor'".
The Examiner disagrees and asserts that Figure 4B in Byers teaches that USBCs are microprocessors as the Applicant acknowledges on page 15 of the applicant's current response for executing instructions form an instruction set. LPFC 178 in Figure 4B of Byers processes digital data under the control of USBCs 164 and 166 in Figure 4B.

The device taught Figure 4B is a device for processing digital data subject to executable instructions; hence is a digital signal processor.

The Applicant contends, "The Office Action is apparently equating the alleged suggestion in Aoyagi et al. of 'not updating coefficients' with the limitation 'saving adaptive parameters.'

The Applicant is incorrect. Figure 7 of Aoyagi teaches the coefficient generator used in the adaptive process described in the Abstract of Aoyagi. The coefficient generator of Figure 7 includes coefficient Register 4550B for storing updated or non-updated coefficients.

The Applicant contends, "the proposed combination of Byers et al. in view of Aoyagi et al. does not disclose, teach, or suggest at least the feature of 'means for using existing parameters of an adaptive device located within said receiver if said frame check sequence indicates that said received signal contains errors' as recited in claim 72".

The Examiner disagrees and asserts that, in the rejection of claim 71, The Examiner explicitly wrote, "coefficients are updated if the difference between reference data and the equalizer output exceed a threshold, i.e., if there are errors". Correcting or updating a coefficient is a process using an existing coefficient; hence Aoyagi teaches using existing coefficient parameter of the adaptive device located within said receiver if said received signal contains errors exceeding a threshold and Byers teaches the use of an FCS to detect errors.

The Applicant contends, "Byers et al. in view of Aoyagi et al. does not disclose, teach, or suggest at least the feature of 'wherein said frame check sequence is used to adapt a receive margin level based on said received signal' as recited in claims 74".
The Examiner disagrees and asserts that, in the rejection of claim 71, The Examiner explicitly wrote, "coefficients are updated if the difference between reference data and the equalizer output exceed a threshold, i.e., if there are errors". Correcting or updating a coefficient if the difference between reference data and the equalizer output exceeds a threshold, i.e., if there are errors, is a process for adapting a receive margin level based on said received signal based on the level of errors in the data. Byers teaches the use of an FCS to detect errors.

The Examiner disagrees with the applicant and maintains all rejections of claims 70-74. All amendments and arguments by the applicant have been considered. It is the Examiner's conclusion that claims 70-74 are not patentably distinct or non-obvious over the prior art of record in view of the references, Byers; Larry L. et al. (US 5524218 A, hereafter referred to as Byers) or claims 6-14 of U.S. Patent No. US 6272108 B1 in view of Aoyagi; Hidehito et al. (US 4613975 A, hereafter referred to as Aoyagi) as applied in the last office action, filed 08/26/2004. Therefore, the rejection is maintained.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 70 is rejected under 35 U.S.C. 102(b) as being anticipated by Byers; Larry L. et al. (US 5524218 A, hereafter referred to as Byers).

See the Non-Final Action filed 08/26/2004 for detailed action of prior rejections.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 71-74 and 80-83 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byers; Larry L. et al. (US 5524218 A, hereafter referred to as Byers) in view of Aoyagi; Hidehito et al. (US 4613975 A, hereafter referred to as Aoyagi).

35 U.S.C. 103(a) rejection of claims 71-74.

See the Non-Final Action filed 08/26/2004 for detailed action of prior rejections.

35 U.S.C. 103(a) rejection of claims 80-83.

Byers and Aoyagi substantially teaches the claimed invention described in claims 71-74 (as rejected above).

However Byers and Aoyagi do not explicitly teach the specific intended use of the communication device in the Applicant's claim 70 specific communication systems.

The Examiner asserts that Byers teaches the communication device in the Applicant's claim 70 for use in a communication system (col. 1, lines 5-10 in Byers). Using the communication device taught in Byers for a specific communication system for which it was designed does not deviate form the scope or the intent in Byers since such intended use does not result in a structural change. See, e.g., In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997) and In re Swinehart, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Byers and Aoyagi by including use of the communication device in the Applicant's claim 70 specific communication systems.

This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that use of the communication device in the Applicant's claim 70 specific communication systems would have provided the opportunity to implement the design in Byers in a communication system for which it was designed.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 70-79 and 80-83 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 6-14 of U.S. Patent No. US 6272108 B1 in view of Aoyagi; Hidehito et al. (US 4613975 A, hereafter referred to as Aoyagi).

See the Non-Final Action filed 08/26/2004 for detailed action of prior rejections.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Torres whose telephone number is (571) 272-3829. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Joseph D. Torres, PhD
Primary Examiner
Art Unit 2133